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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------|-------------|----------------------|-------------------------|------------------|
| 10/773,755 | 02/06/2004 | Jon W. Lai | ATOMP004 | 4021 |
| 51111 | 7590 | 10/30/2008 | EXAMINER | |
| AKA CHAN LLP | | | KEMMERLE III, RUSSELL J | |
| 900 LAFAYETTE STREET | | | ART UNIT | PAPER NUMBER |
| SUITE 710 | | | 1791 | |
| SANTA CLARA, CA 95050 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 10/30/2008 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-INBOX@AKACHANLAW.COM

| | | |
|------------------------------|--|-----------------------------------|
| Office Action Summary | Application No. 10/773,755 | Applicant(s) LAI ET AL. |
| | Examiner RUSSELL J. KEMMERLE III | Art Unit 1791 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

Status

- 1) Responsive to communication(s) filed on 25 July 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 21-25 and 31-86 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 32-41 and 59-62 is/are allowed.
- 6) Claim(s) 21-24,42-58,63-65,73-75,77 and 79-83 is/are rejected.
- 7) Claim(s) 31,67-70,72,76,78 and 84-86 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftperson's Patent Drawing Review (PTO-548)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

In view of the current amendment the previous rejections under 35 USC §112 are withdrawn.

Claim Objections

Applicant is advised that should claims 21 and 77-80 be found allowable, claims 66 and 71-74 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102/103

Claims 21-24, 42-58, 63-65, 73-75, 77 and 79-83 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Beshoory (US Patent 4,763,536).

Beshoory discloses a furnace tube, which includes fluid inlet and outlet means positioned on the same end of the tube (see Fig. 2). Beshoory discloses a tube having a fluid inlet **43** which is connected to a coil portion **45** (i.e., a conduit) which leads to a diffuser **46** where the fluid is released into the tube, generally to interact with a sample

placed therein, the fluid is then removed from the tube through a fluid outlet **44** (Col 2 lines 43-47). It should be noted from Fig. 2 that fluid inlet **43** and fluid outlet **44** are both on the same side of the tube.

Beshoory discloses that an input fluid (such as the reaction gas) enter only through the fluid inlet **43** (that is, the first or third opening). Any gas (such as an inert gas) which enters through other holes (such as the apertures **33**) is a fluid separate from the input fluid. Further, Beshoory does not require the use of any gas other than the input fluid, and in such cases no fluid would enter the chamber except through fluid inlet **43**.

In the alternative, while Beshoory discloses additional openings in the tube (apertures **33**), they are needed only for flowing a purging gas through the tube in situations where a volatile gas is used or created during the heat treatment (Col 2 lines 56-66). Thus it would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, that when such a purge was not necessary that the fluid only enter the interior chamber through the fluid inlet **43**.

Referring to claim 22, Beshoory further discloses that the fluid flow be a gas flow through the tube (Col 2 lines 43-50).

Referring to claim 24, Beshoory further discloses that the outer tube (i.e., the housing) can be made of quartz or other suitable materials (Col 2 lines 2-5).

Thus, Beshoory discloses, or reasonably suggests, every limitation of claims 21-24, and thus anticipates the claims.

Referring to claim 42, Beshoory appears to disclose that the conduit form an annular ring around the interior portion of the interior chamber and defining portions of the interior chamber (Fig 2).

The limitations of claims 43-49 have been addressed above.

Referring to claim 50, it appears based on (Fig 2) that the conduit and housing are concentric shapes (that is, they share a common center based on the center of the conduit structure as a whole, not the center of the passage where gas would flow through the conduit.

The limitations of claims 51-55-58, 63-66 have been addressed above.

Referring to claims 71 and 77, while the housing of Beshoory shows a flat surface for the second end, it appears to not make any difference to the operation of the apparatus and is merely a design choice, and thus would have been obvious to one of ordinary skill in the art, absent a showing of unexpected results.

Referring to claims 73 and 79, Beshoory does not show any divisions in the interior chamber of the housing, and it is therefore undivided.

Referring to claims 74 and 80, Beshoory discloses that the housing be made entirely from quartz (Col 2 line 4-5).

Referring to claim 75, it appears from Fig 2 that the second opening of Beshoory is closer to the second end than it is to the first end. However, in the alternative, it would have been obvious to one of ordinary skill in the art that the second opening could be moved along the length of the housing without having any effect on the operation of the device of Beshoory.

Referring to claims 81-83, quartz is a translucent, crystalline, nonconductive material.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beshoory in view of the admitted prior art.

Beshoory is relied upon as discussed above, but does not discuss what material the coil portion be made of (specifically does not mention that it be quartz), or that the coil portion be quartz welded to the quartz outer tube.

While Beshoory does not specifically disclose a material to be used for the coil portion, he does disclose that many other parts of the assembly are made from quartz including the outer tube (Col 2 lines 2-5) and the diffuser at the end of the coil portion (Col 2 lines 51-52). It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, that the coil portion be made of the same quartz material as the outer tube and the diffuser since that would reduce the amount of different materials in the system, and thus make it easier to ensure that the container is inert to the fluid being introduced and would not react with it.

While Beshoory does not say that the coil portion be attached to the outer tube by quartz welding, as applicant points out, such a process is known in the art as a method of joining two quartz pieces together (applicant's specification, pages 18-19, paragraph 43). It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have used quartz welding to join the quartz coil portion to the quartz outer tube as a well known and understood method of attaching two pieces of quartz material.

Allowable Subject Matter

Claims 32-41 and 59-62 are allowed.

Claims 31, 67-70, 72, 76, 78 and 84-86 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Referring to claims 32 and 37 (and 33-36 and 38-41 which depend from those), Beshoory does not disclose that the conduit be contained outside of the interior chamber of the housing.

Referring to claim 59 (and 60-62 which depend from it), Beshoory does not disclose that the second opening be coupled to the second end of the housing, but instead shows the second opening in the center of the housing.

Referring to claim 31, 67, 76 and 78 (and claims 68-70 and 84-86 which depend from those) Beshoory does not disclose where the second end contains no holes, as the holes are needed to allow the passage of the measuring instruments.

Response to Arguments

Applicant's arguments filed 25 July 2008 have been fully considered but they are not persuasive.

Applicants argue that claim 21 is allowable because the apertures 33 in Beshoory are required.

This is not found to be persuasive because if apertures are present in the second end of the housing of Beshoory or not is wholly irrelevant to the analysis of claim 21.

Claim 21 is completely silent as to there being holes or not on the second end of the housing. All that is required by claim 21 is that fluid enter only through the first or third opening. It would not take a magician or any sort of illusion to prevent fluid from entering through apertures 33 of Beshoory, all that would be required is to not supply a fluid to those apertures, and that will meet the limitations of claim 21.

Claim 21 is silent on the total number of holes contained in the housing, requiring a first, second and third opening, but since it is an open ended claim any additional holes could be found in the prior art and still read on claim 21, as long as the limitation of input fluid entering only through the first or third opening is also met.

Conclusion

Applicant's amendment necessitated any new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RUSSELL J. KEMMERLE III whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791

/R. J. K./
Examiner, Art Unit 1791

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